Anaemia: Diagnosis and Treatment throughout Pregnancy, Labour and Post-Partum Period Clinical Guideline

V2.0

December 2019
Summary – Anaemia pathway – First trimester/Booking

First Trimester/Booking

If known haemoglobinopathy check serum ferritin* + refer to Haem Obs clinic

Hb <110 g/l

Commence oral iron 200mgs ferrous sulphate OD
Re-check Hb + ferritin in 3 weeks

Has there been an increase in Hb after 3 weeks?

Yes
Continue oral iron 200mgs ferrous sulphate OD with ongoing surveillance.

No
Check compliance.
Discuss with consultant obstetrician

Hb < 70 g/l

Check ferritin and commence oral iron 200mg ferrous sulphate OD

1. Urgent referral to joint haematology Obstetric clinic to investigate and plan management.
2. Do not offer blood transfusion unless symptomatic or currently bleeding.

*If known haemoglobinopathy, only treat with ferrous sulphate if ferritin <30 μg/L.
Summary – Anaemia at 28 weeks

28/40 Recheck Full Blood Count (FBC) for all women

Hb <105 g/l

Commence oral iron, 200mgs ferrous sulphate OD and check ferritin
Re-check Hb and ferritin in 3 weeks

Has there been an increase in Hb after 3 weeks?

Yes

Continue oral iron 200mg ferrous sulphate OD with ongoing surveillance by community midwife with monthly HB

No

Check compliance. Discuss with consultant obstetrician if serum ferritin <30μg/L for IV iron (Ferinject).

Hb <70g/l

Consider total dose iron infusion (Ferinject).

Do not offer a blood transfusion unless symptomatic or currently bleeding.

Ferrinject follow up: Blood tests for FBC, reticulocyte count and Ferritin level arranged for 10-14 days after iron infusion.

Also check FBC if symptomatic of anaemia at any point in the pregnancy and follow this flow chart (from 2nd trimester – if 1st trimester follow first flowchart).

Also check FBC if symptomatic of anaemia at any point in the pregnancy and follow this flow chart (from 2nd trimester – if 1st trimester follow first flowchart).
Summary – Anaemia Postnatal

**Postnatal**

**Day 1**

Has the patient had:
- Lower segment caesarean section (LSCS)
- PPH >500 ml
- Uncorrected anaemia in the antenatal period
- Known Iron deficiency anaemia
- Any woman with symptoms/signs suggestive of anaemia

**Take FBC**

- **Hb <110g/dl** and asymptomatic/mildly symptomatic offer oral iron ferrous sulphate 200mg OD
- **Hb <90g/l +/- symptomatic** give total dose IV iron (Ferinject)
- **Hb <60g/dl**. Discuss with the woman and consider clinical picture (symptoms, haemodynamic stability). Consider 1 unit of blood* following consent and/or IV iron (Ferinject).

*Single-unit transfusion followed by clinical reassessment and/or Hb measurement to determine the need for further transfusion.

- Repeat FBC and ferritin after 3/52 to ensure Hb and iron stores are replete. If not, consider IV iron.
- Repeat FBC and Ferritin at 10-14 days to ensure response and at 3 months by GP to ensure Hb and iron stores are replete.
1. **Aim/Purpose of this Guideline**

1.1. The objective of this guideline is to provide health care professionals with clear and simple recommendations for the diagnosis and treatment of iron deficiency in pregnancy and the postpartum period.

1.2. The guideline gives the procedure for the administration of total dose iron.

1.3. This version supersedes any previous versions of this document.

1.4. **Data Protection Act 2018 (General Data Protection Regulation – GDPR) Legislation**

The Trust has a duty under the DPA18 to ensure that there is a valid legal basis to process personal and sensitive data. The legal basis for processing must be identified and documented before the processing begins. In many cases we may need consent; this must be explicit, informed and documented. We can’t rely on Opt out, it must be Opt in.

DPA18 is applicable to all staff; this includes those working as contractors and providers of services.

For more information about your obligations under the DPA18 please see the ‘information use framework policy’, or contact the Information Governance Team rch-tr.infogov@nhs.net

2. **The Guidance**

2.1. **Introduction**

2.1.1. Anaemia is common in pregnancy and is associated with adverse outcomes but it is possible to identify and treat it prior to childbirth. In the UK, over 90% of women who are anaemic in pregnancy have iron deficiency anaemia (IDA). IDA remains a significant problem in the developed world; an estimated 30-40% of pregnant women have iron depletion (WHO 2008) as iron stores are often insufficient to meet the increasing demands of pregnancy. Iron deficiency is already advanced by the time anaemia is detected and has consequences even when anaemia is not clinically apparent.

2.1.2. **Without supplementation, 80% of women at term will have no detectable iron stores and it will take 2 years of normal dietary iron to replace the iron lost with each pregnancy** (De Leeuw et al., 1966).

2.1.3. Effective management of this anaemia is essential to prevent adverse maternal and fetal outcome, and will reduce the need for allogeneic red cell transfusion. Blood transfusions entail a number of known risks (e.g. transmission of infectious agents, transfusion reactions, ABO mismatch, transfusion-related acute lung injury, transfusion-associated circulatory overload, etc.) and lesser known consequences such as immunomodulation (increased incidence of infections and cancer recurrence) (Goodnough & Shander, 2012).
2.1.4. IDA there is shortage of iron stores (low ferritin; iron depletion reduces iron availability for red cell production, resuting in decreased haemoglobin (Hb) and oxygen delivery to tissues.

2.1.5. The effects of IDA on the pregnant woman may include increased susceptibility to infections, physical weakness, preterm labour, PPH, postnatal depression, low birth weight babies. The fetus is relatively protected from the effects of iron deficiency, although neonatal anaemia and impaired psychomotor development have been described. There is little information regarding the Hb threshold below which mortality increases, although this may be as high as 89 g/l, which is associated with a doubling of the maternal death risk in Britain (Brabin et al, 2001).

2.2. Definition
Anaemia in pregnancy is defined by:
- Hb <110g/l in first trimester,
- Hb <105g/l in second / third trimester (allowing for physiological haemodilution)
- Hb <100g/l in postpartum period (British Committee for Standards in Hematology, BCSH 2011)

2.3. Diagnosis of iron deficiency
2.3.1. Clinical symptoms and signs
Since iron is an essential element in all cells, symptoms of iron deficiency can occur before a fall in Hb. Usually the symptoms and signs are non-specific. Fatigue is the most common symptom; others include weakness, headache, palpitation, dizziness, dyspnoea, poor concentration, hair loss, irritability, depression and increased frequency of infections.

2.3.2. In the post-partum period, symptoms include decreased physical performance (tiredness, breathlessness, palpitations), increased risk of infection (urinary tract), impaired lactation, reduced cognitive abilities, emotional instability and depression (Bergmann et al., 2010). Mother–child interactions are affected as women experience difficulties in caring for their newborn, which compromises the emotional bonds between the mother and baby (Perez et al., 2005).

2.3.3. Lab tests
FBC (Full Blood Count): Hb below 110g/l at booking and below 105g/l at 28 weeks indicates anaemia. There is often a low MCV (microcytic), low MCH (hypochromic) anaemia with iron deficiency, although microcytic hypochromic anaemia can also indicate haemoglobinopathies.

2.3.4. Serum ferritin
This is the first laboratory test to become abnormal in iron deficiency and is the most useful and easily available parameter for assessing iron deficiency (< 30 microgm/ l). Other tests like serum iron, total iron binding capacity lack sensitivity and specificity and hence are not recommended in routine diagnosis.
2.3.5. **Trial of oral iron**
A trial of oral therapy is simultaneously diagnostic and therapeutic. If haemoglobinopathy status is unknown it is reasonable to start oral iron whilst screening is being performed. A trial of oral iron should demonstrate a rise in Hb by 2-3 weeks and confirms iron deficiency. If there has been no improvement in Hb in 2 -3 weeks referral should be made to secondary care to consider other causes of anaemia take folate and B12 bloods prior to referral.

2.3.6. **Haemoglobinopathy**
If the woman is known to have haemoglobinopathy, ferritin should be checked first and iron started only if ferritin is < 30 ug/ml.

2.4. **Management of iron deficiency**

2.4.1. **Antenatal**
FBC is routinely checked at booking and 28 weeks, but should be carried out at any point in pregnancy if a patient is symptomatic of anaemia.

2.4.2. **Booking**
If the Hb at booking is Hb <110g/l: Start on trial of oral Iron: Ferrous Sulphate 200mg OD taken on an empty stomach, 1 hour before meals with a source of vitamin C such as orange juice (to increase absorption). Other medications or antacids, tea or coffee should not be taken at the same time.

2.4.2.1. Patients should be warned of the potential gastrointestinal side-effects associated with oral iron (abdominal pain, nausea, vomiting, diarrhoea and dark stools) which may be reduced by taking after food (which will reduce absorption) or by decreasing the dose.

2.4.2.2. Repeat Hb and ferritin levels 3 weeks after commencement of iron therapy (15-16 week appointment) and a rise in Hb should be demonstrated. If there is no rise in Hb despite good compliance, refer to a Consultant Obstetrician for investigation +/-

2.4.2.3. Hb <70g/l: Urgent referral to joint haematology Obstetric clinic to investigate and plan management. Do not offer blood transfusion unless symptomatic or currently bleeding.

    NB: Serum ferritin should be checked prior to starting oral iron in patients with known haemoglobinopathy.

2.4.3. **28 week appointment.** Recheck FBC for all women.
2.4.3.1. Hb <105g/l: trial of oral iron as above and check for response in 3 weeks. If no response in 3 weeks check serum ferritin and
refer to Consultant Obstetrician to consider total dose IV iron (Ferinject).

2.4.3.2. Hb <70g/l: Urgent referral to joint Haematology Obstetric Clinic to investigate and plan management. Do not offer blood transfusion unless symptomatic or currently bleeding. Consider total dose Iron infusion (Appendix 3).

2.4.4. Postnatal anaemia

2.4.4.1. Hb <100g/l is defined as anaemia in the postnatal period. However, some have suggested that a cut-off of 110g/l should be used (as 120g/l is the Hb cut-off for non-pregnant women).

2.4.4.2. Check FBC on day 1
- For all women who have had a LSCS.
- PPH of more than 500ml
- Uncorrected anaemia in the antenatal period
- Known Iron deficiency anaemia
- Any woman with symptoms/signs suggestive of anaemia

2.4.4.3. Hb 90-110g/l: and are asymptomatic and haemodynamically stable should be offered oral iron (Ferrous Sulphate 200mg OD) for 3 months. Advise the woman to have a repeat FBC and ferritin after 3 weeks to ensure Hb and iron stores are replete.

2.4.4.4. Hb <90g/l: Treat with total dose intravenous Iron (i.e. Ferinject) Repeat FBC and ferritin at 10-14 days to ensure response and at 3 months by GP, to ensure Hb and iron stores are replete.

2.4.4.5. Hb <70g/l: Discuss options with woman. Also depends on clinical picture (symptoms, signs, haemodynamic instability). Consider 1 unit of blood following informed consent (this should be a single-unit transfusion with a repeat Hb to determine the need for further transfusion) and/ or total dose IV Iron (i.e. Ferinject).

*One red cell concentrate contains approximately 240 mg of iron, which is insufficient to replenish iron reserves. Therefore, concomitant IV iron to replete the iron reserves in order to minimise the number of transfusions may be considered.

2.4.5. Symptomatic Anaemia
Women who are symptomatic of anaemia, haemodynamically unstable or continuing to bleed heavily will need a full senior obstetric review to investigate the origin of the blood loss and decide further management. Other speciality involvement may be indicated.

Follow up arrangements with primary care should be ensured at postnatal discharge from hospital.
2.5. Management of labour and delivery in woman with iron deficiency
With good practice this situation should be generally avoided, however there are instances when women book late, have not engaged in antenatal care, or moved from out of the county. In such situations take all measures to minimise blood loss at delivery.
2.5.1. Deliver in hospital with IV access, and group and screen on admission
2.5.2. Active management of third stage (refer to guidelines in management of third stage 2012)
2.5.3. Consider prophylactic Syntocinon infusion / Misoprostol (Alfirevic 2007)
2.5.4. In the event of a PPH, there will be a tendency to decompensate quicker, so all measures to stop bleeding should be performed promptly
2.5.5. Post-natal FBC day 1 and iron replenishment as above

2.6. Parenteral Iron therapy
2.6.1. Is proven to increase Hb faster than oral iron and replenish iron stores faster when compared with oral iron therapy (Bhandal 2005, Wyk 2007, Breymann 2007).
2.6.2. Fewer postpartum blood transfusions are reported in a large group treated with IV iron antenatally (Reveiz 2007).
2.6.3. Ferinject is an intravenous total dose iron preparation providing slow release of bio available iron for uptake by the reticuloendothelial cells and little risk of release of free iron. Hence there is no need for a test dose.
2.6.4. An erythropoietic response is seen in a few days with an increase in reticulocyte count and ferritin level (iron store) returns to normal in 1-2 weeks.
2.6.5. Doses of up to 1000mg iron can be administered in a single infusion. MAXIMUM DOSE IS 1000MG PER WEEK.

2.7. Contraindication
2.7.1. PREVIOUS HYPERSENSITIVITY TO IV IRON
2.7.2. Acute infection/ inflammation
2.7.3. First trimester of pregnancy

2.8. Total dose IV Iron – Ferrinject 1000mg in 20ml vial for slow IV infusion. (Unless body weight <35kg, then dose = 500mg)
2.8.1. Antenatal infusion is based on Consultant decision
2.8.2. A serum Ferritin < 30 ug/l is confirmation of iron deficiency anaemia
2.8.3. If in community refer to DAU for infusion

2.8.4. Administer according to prescription

2.8.5. Postnatal infusions will take place either on delivery suite or wheal fortune, or if referred, in DAU

2.8.6. Administer total dose iron (i.e. Ferinject) according to protocol, (Appendix 3&4)

2.8.7. A Test dose is NOT required for many total dose iron preparations. Risk of anaphylaxis - 1 in 10,000 cases (0.01%).

2.8.8. Other uncommon side effects include fast pulse, low BP and feeling dizzy.

2.9. FERINJECT
2.9.1. Make up single dose infusion 1000mg/1 vial of ferinject diluted with 250ml 0.9% saline via infusion at 500mls/hr over 30minutes.

2.9.2. Administer as per Appendix 4&5.

2.9.3. Re-check Hb and serum ferritin 10-14 days after IV Iron dose.

2.9.4. For severe iron deficiency the dose should be calculated based on target Hb to be achieved.

2.9.5. Expected outcome = increase Hb of as much as 20g/l in 5-7 days, 30-40g/l after 2 weeks.
3. **Monitoring compliance and effectiveness**

<table>
<thead>
<tr>
<th>Element to be monitored</th>
<th>1. Haemoglobin at booking is measured and 28 weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2. The diagnosis of anaemia is made if Hb is &lt;110</td>
</tr>
<tr>
<td></td>
<td>3. Haemoglobin measurements are reviewed and treated within 2 weeks</td>
</tr>
<tr>
<td></td>
<td>4. Once iron is commenced the Hb and ferritin should be reviewed within 4 weeks</td>
</tr>
<tr>
<td></td>
<td>5. After 34 weeks with iron deficiency anaemia should be referred for secondary care review</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lead</th>
<th>Sophie Haynes, Consultant Obstetrician</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tool</td>
<td>Excel</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Once in the lifetime of the guideline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reporting arrangements</td>
<td>Audit meetings and forum</td>
</tr>
<tr>
<td>Acting on recommendations and Lead(s)</td>
<td>Forum and Audit meetings for maternity</td>
</tr>
<tr>
<td>Change in practice and lessons to be shared</td>
<td>Via team leaders and audit team dissemination</td>
</tr>
</tbody>
</table>

4. **Equality and Diversity**

4.1. This document complies with the Royal Cornwall Hospitals NHS Trust service Equality and Diversity statement which can be found in the 'Equality, Inclusion & Human Rights Policy' or the [Equality and Diversity website](#).

4.2. **Equality Impact Assessment**

The Initial Equality Impact Assessment Screening Form is at Appendix 2.
### Appendix 1. Governance Information

<table>
<thead>
<tr>
<th>Document Title</th>
<th>Anaemia: Diagnosis and Treatment throughout Pregnancy, Labour and Post-Partum Period Clinical Guideline V2.0</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Date Issued/Approved:</strong></td>
<td>December 2019</td>
</tr>
<tr>
<td><strong>Date Valid From:</strong></td>
<td>December 2019</td>
</tr>
<tr>
<td><strong>Date Valid To:</strong></td>
<td>December 2022</td>
</tr>
</tbody>
</table>
| **Directorate / Department responsible (author/owner):**                      | Dr Sophie Haynes, Consultant Obstetrician  
Dr Catherine Ralph, Consultant Anaesthetist |
| **Contact details:**                                                          | 01872 252729                                                                                           |
| **Brief summary of contents**                                                 | The objective of this guideline is to provide health care professionals with clear and simple recommendations for the diagnosis and treatment of iron deficiency in pregnancy, labour and the postpartum period.  
The guideline gives the procedure for the administration of total dose iron. |
| **Suggested Keywords:**                                                       | Anaemia, pregnancy, labour, postnatal period, postpartum, iron infusion, labour, FBC, Hb, Ferrinject, iron |
| **Target Audience**                                                           | RCHT  
CFT  
KCCG |
| **Executive Director responsible for Policy:**                                | Medical Director                                                                                       |
| **Date revised:**                                                             | December 2019                                                                                           |
| **This document replaces (exact title of previous version):**                | ANAEMIA: DIAGNOSIS AND TREATMENT OF ANAEMIA THROUGHOUT PREGNANCY, LABOUR AND POST PARTUM PERIOD V1.3    |
| **Approval route (names of committees)/consultation:**                       | Maternity guidelines  
PRG  
Care Group Board                                                                 |
<p>| <strong>Care Group General Manager confirming approval processes</strong>                 | Debora Shields, Care Group Manager                                                                        |
| <strong>Name and Post Title of additional signatories</strong>                            | Not required                                                                                           |
| <strong>Name and Signature of Care Group/Directorate Governance Lead</strong>            | {Original Copy Signed}                                                                                    |</p>
<table>
<thead>
<tr>
<th>Related Documents:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• UK guideline on the management of iron deficiency in pregnancy, BCSH, July 2011 Bayoumeu F, Subiran-Buisset C, Baka NE, Legagneur H, Monnier-Barbarino P, Laxenaire MC.</td>
</tr>
<tr>
<td>• An analysis of anaemia and pregnancy related maternal mortality. Journal of Nutrition 131, 604S- 615S Bhandal N, Russell R.</td>
</tr>
<tr>
<td>• Intravenous versus oral iron therapy for postpartum anaemia. BJOG 2006; 113:1248-1252 Gravier A, Descargues G, Marpeau L.</td>
</tr>
<tr>
<td>• Hand book of Obstetric Medicine, second edition, Catherine Nelson Piercy</td>
</tr>
<tr>
<td>• Summary of product characteristics – Ferrous Sulphate Jul 2018</td>
</tr>
<tr>
<td>• Summary of product characteristics-Ferinject (Ferric Carboxymaltose) Dec 2018</td>
</tr>
</tbody>
</table>
Training Need Identified? No

Version Control Table

<table>
<thead>
<tr>
<th>Date</th>
<th>Versio n No</th>
<th>Summary of Changes</th>
<th>Changes Made by (Name and Job Title)</th>
</tr>
</thead>
<tbody>
<tr>
<td>October 2010</td>
<td>1.0</td>
<td>Initial document</td>
<td>Dr Aylur Rajasri Consultant Obstetrician</td>
</tr>
<tr>
<td>October 2012</td>
<td>1.1</td>
<td>Change in product from Venofer to Monofer and change in management of HB &lt;11 at booking and &lt;10.5 at 28 weeks</td>
<td>Dr Aylur Rajasri Consultant Obstetrician</td>
</tr>
<tr>
<td>6th February 2014</td>
<td>1.2</td>
<td>Change in product name from Monofer to Ferinject only</td>
<td>Dr Aylur Rajasri Consultant Obstetrician</td>
</tr>
<tr>
<td>12th January 2017</td>
<td>1.3</td>
<td>Ferinject vial changed to 500 mg in 10 ml</td>
<td>Dr Aylur Rajasri Consultant Obstetrician</td>
</tr>
<tr>
<td>December 2019</td>
<td>2.0</td>
<td>Ferinject + ferrous sulphate dosing adjusted Flow charts simplified to improve compliance</td>
<td>Dr Emma Shephard O&amp;G ST2, Dr Cathy Ralph Consultant Anaesthetist</td>
</tr>
</tbody>
</table>

All or part of this document can be released under the Freedom of Information Act 2000

This document is to be retained for 10 years from the date of expiry.
This document is only valid on the day of printing

Controlled Document

This document has been created following the Royal Cornwall Hospitals NHS Trust Policy for the Development and Management of Knowledge, Procedural and Web Documents (The Policy on Policies). It should not be altered in any way without the express permission of the author or their Line Manager.
### Appendix 2. Initial Equality Impact Assessment Form

**Name of the strategy / policy / proposal / service function to be assessed**
Anaemia: Diagnosis and Treatment throughout Pregnancy, Labour and Post-Partum Period Clinical Guideline V2.0

<table>
<thead>
<tr>
<th>Directorate and service area:</th>
<th>New or existing document:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obs and Gynae</td>
<td>Existing</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of individual completing assessment:</th>
<th>Telephone:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Julie Walton</td>
<td>01872 252729</td>
</tr>
</tbody>
</table>

#### 1. Policy Aim*

*Who is the strategy / policy / proposal / service function aimed at?*

The objective of this guideline is to provide health care professionals with clear and simple recommendations for the diagnosis and treatment of iron deficiency in pregnancy, labour and the postpartum period. The guideline gives the procedure for the administration of total dose iron.

#### 2. Policy Objectives*

Ensure timely identification and treatment of pregnant women/newly delivered women with anaemia.

#### 3. Policy – intended Outcomes*

Prevention and treatment of anaemia in pregnancy and post-natal period.

#### 4. *How will you measure the outcome?*

Compliance Monitoring Tool.

#### 5. Who is intended to benefit from the policy?

Pregnant and newly delivered women with iron deficiency anaemia.

#### 6a Who did you consult with

<table>
<thead>
<tr>
<th>Workforce</th>
<th>Patients</th>
<th>Local groups</th>
<th>External organisations</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

b). Please identify the groups who have been consulted about this procedure.

- Maternity Guidelines Meeting
- PRG Care Group Board

What was the outcome of the consultation?

Agreed

#### 7. The Impact

Please complete the following table. **If you are unsure/don’t know if there is a negative impact you need to repeat the consultation step.**

<table>
<thead>
<tr>
<th>Equality Strands:</th>
<th>Yes</th>
<th>No</th>
<th>Unsure</th>
<th>Rationale for Assessment / Existing Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Are there concerns that the policy **could** have differential impact on:

<table>
<thead>
<tr>
<th>Equality Strands:</th>
<th>Yes</th>
<th>No</th>
<th>Unsure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex (male, female, trans-gender / gender reassignment)</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Race / Ethnic communities /groups</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disability - Learning disability, physical impairment, sensory impairment, mental health conditions and some long term health conditions.</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Religion / other beliefs</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marriage and Civil partnership</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pregnancy and maternity</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexual Orientation, Bisexual, Gay, heterosexual, Lesbian</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**You will need to continue to a full Equality Impact Assessment if the following have been highlighted:**

- You have ticked “Yes” in any column above and
- No consultation or evidence of there being consultation - this **excludes** any policies which have been identified as not requiring consultation. **or**
- Major this relates to service redesign or development

8. Please indicate if a full equality analysis is recommended.  
   Yes | No | X

9. If you are **not** recommending a Full Impact assessment please explain why.

Not indicated

<table>
<thead>
<tr>
<th>Date of completion and submission</th>
<th>December 2019</th>
<th>Members approving screening assessment</th>
<th>Policy Review Group (PRG)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>‘APPROVED’</td>
</tr>
</tbody>
</table>

**This EIA will not be uploaded to the Trust website without the approval of the Policy Review Group.**

A summary of the results will be published on the Trust’s web site.

Anaemia: Diagnosis and Treatment throughout Pregnancy, Labour and Post-Partum Period Clinical Guideline V2.0
Appendix 3

**Ferinject Administration**

10 mL vial = 500 mg **ONLY IF BODY WEIGHT <35kg**
20 mL vial = 1,000 mg

- Dilute ferrinject dose:
  - For 500mg dose, dilute 10mL in 100mL of 0.9% IV sodium chloride
  - For 1,000mg dose, dilute 20mL in 250mL of 0.9% IV sodium chloride

- Label

- Switch on Baxter pump and allow it to undertake its self check

- Press “OPEN” and load Baxter administration set. Once loaded it will close automatically

- Select “new patient”

- Select “Primary” administration

- Administer over 30 mins:
  - set rate at 200 mls per hour for 500mg dose,
  - set rate at 500mls per hour for 1,000mg dose.

- Fully open flow-regulating clamp on administration set and press start

  - **Test Dose is Not Required**

- Observations (BP, HR, RR and saturation) are required prior to the start of the infusion and every 15 mins for the duration of the infusion. (See appendix 4)

Patients must stay for 30 mins following infusion and observations checked prior to discharge.

*If hypersensitivity reactions or signs of intolerance occur during administration, the treatment must be stopped immediately.*

- If the patient and their observations are all within normal limits the cannula can be removed and the patient discharged

  Any problems please contact Blood Conservation on 8079
## Appendix 4

### Checklist for Total Dose Iron Infusion in Maternity

<table>
<thead>
<tr>
<th>Date: / /</th>
<th>Location: DAU / Wheal Rose / Delivery Suite / Wheal Fortune</th>
</tr>
</thead>
</table>

**Patient Identity Label**

<table>
<thead>
<tr>
<th>Name &amp; signature</th>
</tr>
</thead>
</table>

### Antenatal patient at ……. weeks gestation / Postnatal patient

**Patient information**
- Leaflet on IV iron given
- Verbal consent obtained

### Antenatal infusion is based on Consultant decision

- Consultant authorising iron infusion: ………………………………….

### Ferritin level: <30 / Hb<80 gm%/ proven gastric intolerance to oral iron

**Diagnosis of iron deficiency documented in notes**

### Contraindication to parental iron therapy:

- Previous hypersensitivity to IV iron
- Acute / Infection / inflammation
- First trimester of pregnancy

**No contradiction to IV iron for this patient**

### Maternal observations prior to commencing iron infusion

- Temp:            BP:      /          Pulse:          Sp O2:       %   Resps:          Fetal heart rate:  bpm

### Iron Infusion

- 1000mg Ferinject in 250mL 0.9% saline (or 500 mg Ferinject in 100mL 0.9% saline)
- Commence infusion via Baxter pump – 30 minute infusion
  - 500mg dose = 200mL per hour / Volume 100mL
  - 1000mg dose = 500mL per hour / Volume 250mL
  - Test dose NOT required

### Maternal observations after 30 minutes infusion

- Temp:            BP:      /          Pulse:          Sp O2:       %   Resps:          Fetal heart rate

### Maternal observations after infusion complete

- Patient observed for 30 minutes after infusion complete
- Fetal well being, CTG performed
- Cannula flushed with 8mls 0.9% saline.
- Cannula removed and cannula care plan completed
- Patient informed of possible side effects and advised to ensure an adult is with them overnight

### Follow up.

- Blood tests for FBC, reticulocyte count and Ferritin level arranged for 10-14 days after iron infusion. Blood forms given to patient with clear instruction.

Please refer to RCHT Clinical Guideline: Anaemia: Diagnosis and treatment of anaemia throughout pregnancy, labour and postpartum period